

FILE SEGMENT: 027 Biophysics, Bioengineering and Medical
Instrumentation

LANGUAGE: English

AB A technique has been developed that is potentially suitable for field splicing an optical cable containing linear arrays of optical fibers. Linear arrays of fibers (which may reside in fiber ribbons) are placed between spacers that are grooved top and bottom to form **stacked**, rectangular **arrays**. This operation can be done without microscopes or micromanipulators. After potting, the ends of the two **stacked arrays** are polished to form cable terminations that are brought together in a butt joint splice. A 12 x 12 array using this technique exhibited a mean loss of 0.42 dB for 138 splices with 70 percent of the losses less than 0.5 dB. Subsequent single ribbon to ribbon

splices had average losses less than 0.2 dB. Launching conditions can be duplicated and splice losses are repeatedly low for reassembled splices; this presumably is due to polished fiber ends and accurate alignment. Experience gained thus far indicates that this mass splicing method will probably produce large array splices with a maximum loss of 0.5 dB.

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(FILE 'HOME' ENTERED AT 11:55:30 ON 21 DEC 2004)

FILE 'CAPLUS, BIOSIS, MEDLINE, EMBASE' ENTERED AT 11:55:40 ON 21 DEC 2004

L1 30 S KUMAR RAJAN/AU
L2 30 L1
L3 193 S STACKED (2W) ARRAYS